Idaho Department of Water Resources
Information Technology

Title:	PCDocs #
3-Year IT Plan 2009 - 2011	293077

Summary of Plan

The Department of Water Resources plans to analyze, design, develop and implement information systems for several major projects over the next three years. The major projects are as follows:

1. Increase public access to IDWR data via an improved web presence.
2. Develop multiple years of evapotranspiration data.
3. Fund SANs drive solution to support consolidation of servers and processes.
4. Integrate GIS and remote sensing into hydrologic mapping and modeling.
5. Work to assure a thermal sensor on the next Landsat satellite.
6. Upgrade hardware and software infrastructure within funding constraints.
7. Re-write Visual Basic 6 software programs into .NET.
8. Fund Blackberry Server Solution.
9. Implement node to support EPA's Environmental Data Exchange Network.
10. Maintain and update the library of IDWR digital GIS and remote sensing data.

Information Technology Objectives
(From IDWR Information Technology Strategic Plan – PCDocs # 180992)

- The department must identify and prioritize business processes.
- Ensure data accuracy and integrity.
- Integrate databases and processes within the Department.
- Enable public and staff access to Department data and information that supports the Department's mission.
- Plan for changes to software and hardware.
- Plan for changes to business processes through effective communication.
- Train employees to maintain core competencies and to adopt emerging information technologies.
- Provide IT infrastructure support.
- Support IT Steering Committee (ITSC) as the vehicle for planning and resource allocation.
- Secure adequate funding through direct appropriation, partnerships with other agencies, or through direct grants.

FY2010 Projects

1. Increase public access to IDWR data. IDWR has an ongoing effort to integrate the Internet into its business processes. The purposes for this integration are 1) increase public access to data, 2) increased transparency in IDWR decision-making, 3) increased access by the public for compliance with IDWR programs such as filing water right claims or applications for well-drilling permits, and 4) increased efficiency at IDWR for processing data submitted by the public. IDWR continues to update its existing Internet GIS applications as the public makes suggestions, and to create new applications as Departmental programs need them.

2. Work continues computing seasonal evapotranspiration on the Eastern Snake Plane for the Eastern Snake Hydrology Modeling Committee. The Committee has put its highest priority on having a 25-year span of evapotranspiration data in order to improve the output of IDWR's groundwater model. Each year of evapotranspiration data requires between 21 and 24 digital satellite images, which will require up to 180 GB of storage per year of data processed.

3. A study conducted by Intermountain Technology Group (ITG) and Hewlett-Packard completed in January 2008 recommends consolidation of servers and storage at IDWR. Initial data projections of 5 TB will begin the consolidation. Funding was requested in FY2010, but denied due to the current financial situation. Funding will be requested in the FY2011 budget.

4. The Hydrology Section and the Geospatial Technology Section have been collaborating to update IDWR's hydrologic modeling environment by integrating GIS into the modeling process. Work has begun to add land-use attributes to the Farm Service Agency Common Land Unit polygons so they can be used to update the irrigated/non-irrigated layer used for the Eastern Snake Plain Aquifer model.

5. Communication efforts continue with Private, Federal, and State agencies to ensure the next Landsat satellite includes a thermal sensor, allowing continuation of the evapotranspiration modeling.

6. IDWR continues to replace aging computers towards the goal of a 4 year replacement cycle. FY10 funding requests were denied due to budget constraints. Funding to replace 110 computers will be requested in the FY2011 budget. Sixty-five (65) computers were purchased in 2005. Forty-five (45) computers were purchased in 2006. (See Water Resources IT Policy #006, Minimum PC Hardware Requirements – PCDocs # 252331).

7. Current "Workflow" applications written in Visual Basic 6 need to be re-written into VB.NET. Programming efforts will continue despite the reduction in resources by 1.5 FTE's in FY2010.

    i. Additional functionality is being requested to offer the public on-line access and to provide other enhancements to water right applications, transfers, and other IDWR business processes. Completing these requests will require future programming resources. Future programs will include the ability to purchase additional services on-line.

    ii. Current programs written in VB6 are frozen and can no longer be modified. The VB6 language has reached end of life and is no longer supported by Microsoft.

    iii. The Department is forced to remain on Internet Explorer 6 because processes fail using Internet Explorer 7 and Internet Explorer 8.

    iv. VB.Net applications take advantage of security features (integration with Active Directory) within Internet Explorer that are not available within FireFox.

8. IDWR currently has four employees using Blackberry devices. All four are using the Blackberry Redirector on their desktop computers, preventing their computers from being shut down when not being used. Additional employees are requesting Blackberry devices. The Director travels with his laptop, so a second computer is required to run the Blackberry Redirector in order for his device to function (also requiring additional software licenses). Funding will be requested in the FY2011 budget for a Blackberry server and software solution. The Blackberry solution will support requests from IDWR field employees for connectivity while away from the office.

9. IDWR is currently implementing a node on EPA's Environmental Data Exchange Network under a joint IDWR/IDEQ grant from EPA. This node will be part of a nation-wide network of environmental data. IDWR will begin by making all Idaho ground water quality data available through a set of standard .xml protocols. In the second phase, IDWR will develop protocols allowing edits to the National Hydrography Data Set by local water delivery organizations to EPA and USGS.

10. IDWR will continue to expand its library of GIS and remote sensing data, requiring increased data storage. As the State of Idaho Steward for Hydrography and Watershed Boundaries, maintenance efforts continue on the Idaho portion of the National Hydrological Data. Work has begun to add land-use attributes to the CLU polygons in order to update the irrigated/non-irrigated layer used as input to the Eastern Snake Aquifer model. The administration of water rights requires and ever-larger volume of digital satellite images and digital aerial photographs in order to help assess beneficial use. Future budget requests will address disk drive requirements for storage of additional data.

Revision History

Date	Version	Description	Author
August 6, 2007	1.0	Document Created #274190	Glen Gardiner
July 11, 2008	2.0	Reviewed and updated by IDWR Information Technology Steering Committee (ITSC) #293077	Glen Gardiner
June 9, 2009	3.0	Reviewed and updated with GIS manager.	Glen Gardiner

Idaho Department of Water Resources
Information Technology

Title:	PCDocs #
Information Technology Strategic Plan	180992

Key Goals (numbered) and Objectives (lettered):

1. The department must identify and prioritize business processes and provide a vision of how they can be improved and expanded
   a. Each business process is responsible for identifying needed applications and data that support the applications
   b. Where more than one business process is involved, managers of those business processes need to coordinate
   c. Information Technology Steering Committee (ITSC) fosters the coordination and communication among the business processes
   d. These objectives are accomplished by the formulation of recommendations by business processes, the presentation of these recommendations to senior management, and the implementation of decisions by senior management

2. Ensure data accuracy and integrity
   a. Each business process is responsible for its own data, recognizing the responsibility for sharing and integration with others
   b. Develop standards for each database
   c. Implement rules for incorporating data standardization in applications
   d. Conduct quality control and assurance for each database

3. Integrate databases and processes within the Department
   a. Define the business processes
   b. Identify the databases related to each process
   c. Define interrelationships among databases and business processes
   d. Develop an Action Plan which addresses needs of the inter-related business processes

4. Enable public and staff access to Department data and information that supports the Department's mission
   a. Continually review and enhance the website
   b. Promulgate the IDWR ITSC Strategic Plan both internally and externally
   c. Accept and respond to feedback
   d. Comply with legal requirements

5. Plan for changes to software and hardware
    a. Ensure that changes do not disrupt other processes
    e. Encourage employees' participation in development of new applications
    f. Invest in research for new technologies
    g. Routinely test and evaluate emerging technologies
    h. Monitor technologies that other departments are using

6. Plan for changes to business processes through effective communication
    a. Announce through Waterline major changes
    b. Post on WENET business process information
    c. Discuss changes in ITSC

7. Train employees to maintain core competencies and to adopt emerging information technologies
    a. Identify core competencies by position
    b. Identify and analyze emerging technologies
    c. Identify the specific training requirements for each job classification
    d. Identify training deficiencies
    e. Prioritize training needs
    f. Identify funding for addressing training needs
    g. Provide training resources
    h. Evaluate the effectiveness of training

8. Provide IT infrastructure support
    a. Monitor resource status and use, such as Web Trends and Software license use
    b. Evaluate, augment, design, install and support network, hardware, and software
    c. Ensure adequate Department-wide software licensing and maintenance contracts
    d. Provide for system security
    a. Conduct backup/recovery operations

9. Support ITSC as the vehicle for planning and resource allocation
    a. Continue to present proposed IT enhancements to the ITSC
    b. Prepare and update the prioritized listing of required IT enhancements
    c. Address deficiencies and problems as they are identified
    d. Identify and pursue appropriate avenues for funding
    e. Relate resources to business processes
    f. Identify commonality among business processes

10. Secure adequate funding through direct appropriation, partnerships with other agencies, or through direct grants
    a. Identify and prioritize hardware and software needs

b. Recognize hard-working employees that actually bring grants and finance to the department
c. Identify funding sources
d. Match sources with needs
e. Make our needs known to the Legislature

Revision History

Date	Version	Description	Author
August 6, 2007	1.0	Document Created #180992	Glen Gardiner
July 11, 2008	2.0	Reviewed by IDWR IT Steering Committee	Glen Gardiner
June 9, 2009	2.1	Reviewed and updated	Glen Gardiner

Idaho Department of Water Resources
Information Technology Steering Committee
(ITSC) Policies

Policy Title:	Policy #	PCDocs #
Minimum PC Hardware Requirements	DWR-ITSC-006	252331

Overview

The latest versions of ESRI GIS software, Microsoft programming software, Adobe Acrobat software, and Leica Geosystems (ERDAS), require greater processor speeds, more memory and larger hard drive capacity than earlier versions. Running these software packages on older hardware adversely affects productivity.

Purpose

The purpose of this policy is to establish minimum pc hardware requirements needed to run current software. This will help guide future budget requests for replacing older equipment.

List of Software and the Hardware Requirements

Following is a partial list of software titles and versions, along with their hardware requirements. This list only includes programs requiring the most processor speed, memory and hard drive space. Programs requiring less hardware resources are not listed.

Software	Vendor	Version	Processor	Memory
Leica Geosystems	ERDAS Imagine	9.2	2800 MHz	1024 Mb
VS 2005 Developers	Microsoft	.NET	2000 MHz	384 Mb
MacroMedia Flash CS4	Adobe	4	1500 MHz	1024 Mb
Encore CS4	Adobe	4	1400 MHz	1024 Mb
Creative Suite CS4 Web	Adobe	4	2000 MHz	2048 Mb
Production Studio CS4	Adobe	4	2000 MHz	2048 Mb
Feature Analyst	Visual Learnin	Pro	1400 MHz	512 Mb
ArcGIS	ESRI	9.3	1000 MHz	1024 Mb
VB.Net	Microsoft	3.5	1000 MHz	1024 Mb
Image Pro Plus	MediaCybernetics	6.3	750 MHz	1024 Mb
VS 2005 Pro	Microsoft	.NET	2000 MHz	2048 Mb
Office 2003	Microsoft	2003	1000 MHz	1024 Mb
Trimble	Pathfinder Office	4.0	800 MHz	512 Mb
Surfer	Golden Software	9	1000 MHz	1024 Mb
Grapher	Golden Software	7	1000 MHz	1024 Mb

Most employees run more than one application at a time. Processor and memory requirements may be additive when multiple programs are opened at the same time.

Policy

Computer users are separated into two groups. Individuals requiring the latest hardware technology and individuals where productivity could be increased by using the minimum configuration suggested below. Existing computers should be "trickled" into locations not requiring as much computing power.

Heavy GIS Users, Programmers, and ERDAS users

- Processor   2.8 GHz dual core or greater

- Memory   4 GB or greater

- Hard Drive   160 GB or greater

- 256 MB Video Card

- DVD/CD Burner

- 20" flat panel monitor

- 2 monitors may be needed for some applications

General ArcView users, Adobe users, and other software identified in this policy.

- Processor   2.0 GHz or greater

- Memory   2 GB or greater

- Hard Drive   80 GB or greater

- 128 MB Video Card

- DVD/CD Burner

- 20" flat panel monitor

Policy Review

This policy should be reviewed by the IT Steering Committee annually, prior to submitting the budget request for the following year.

Revision History

Date	Version	Description	Author
April 3, 2006	1.0	Approved by ITSC #252331	Glen Gardiner
August 6, 2007	2.0	Updated software used by IDWR, updated hard drive size, processor speed, and video card memory per ITSC meeting.	Glen Gardiner
June 6, 2008	2.1	Reviewed, no changes	Glen Gardiner
June 1, 2009	3.0	Updated to new form. Updated PC configuration to reflect standard computers available on State contract. Updated software versions and system requirements. Approved by ITSC.	Glen Gardiner